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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/933,492
Filing Date: August 20, 2001
Appellant(s): HEMBREE ET AL.

MAILED
JUL 31 2007
GROUP 2800

Stephen A. Gratton
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 26, 2007 appealing from the Office action mailed October 10, 2006.

Art Unit: 2815

(1) Real Party in interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

No amendment after final has been filed.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

4721995

Tanizawa

1-1988

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following limitation “the conductor having a pattern containing information from testing of the semiconductor components” must be shown or the features canceled from the claims. No new matter should be entered. .

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

Art Unit: 2815

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The amendment filed August 8, 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "the conductor having a pattern containing information from testing of the semiconductor components".

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 52 – 62 and 70 – 77 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 52, 56, 60 and 70, it is unclear what the applicant regards as:

- (a) Regarding the limitation "a plurality of redistribution conductors... in electrical communication with the component contacts configured to repair the

defective component” how is the plurality of redistribution conductors configured to repair the defective component?

(b) Regarding the limitation “the conductor having a pattern containing information from testing of the semiconductor components ... for repairing the defective component” it is unclear how the pattern of a conductor contains **information from testing of the semiconductor components ...** when the conductor is nothing more than a metal wire and not software.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 52 – 62 and 70 – 77 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanizawa (U. S. Pat. No. 4,721,995).

Regarding claim 52, as best as understood by the Examiner, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a semiconductor component comprising:

- a substrate (semiconductor wafer 1 in Fig. 4 and column 4, line 67) comprising a plurality of semiconductor components (semiconductor IC blocks 2; column 5, lines 1 – 15), each component including a plurality of component contacts (4; column 5, line 16) and a plurality of integrated circuits (Integrated circuits in the blocks 2; column 5, lines 16 – 27) in electrical communication (by using the element 112) with the

- component contacts (4; see Fig. 3(a)), the components including a plurality of good components (good components, i.e., A, B, C and the not hatched block 2 in Fig. 4) and at least one defective component (any hatched block 2, i.e., E; see Fig. 4 and column 5, lines 61 – 62); and
- a metal redistribution layer (claim 70; the metal redistribution line 5; column 5, lines 28 – 31) on the substrate (1) comprising a plurality of redistribution conductors (6B; column 5, lines 47 and 48) on the components in electrical communication with the component contacts (4) configured to repair the defective component (column 5, line 62 – column 6, line 5).

Furthermore, the limitation “the conductors having a pattern containing information from testing of the semiconductor components representing locations of the good components, the defective component and the component contacts, and for repairing the defective component” is functional or intended use language that does not differentiate the claimed structure over Tanizawa. Since the term “information” is defined as the locations (i.e., the good components, the defective component and the component contacts) and the patterned conductor of Tanizawa also represents the locations (i.e., the good components, the defective component and the component contacts), hence the patterned conductor of Tanizawa contains the information. Thus, Tanizawa meets the claim.

Regarding claim 53, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the components including a second defective component (a second hatched block for the bad blocks 2; column 5, lines 61 and 62) and the conductors (6B) being configured to electrically isolate the second defective component (see e.g., Fig. 6(b) and column 6, lines 25 – 30. since the

Art Unit: 2815

conductors 6B is electrically connected to the new chip 8 and not electrically connected to the bad chip 2, Tanizawa fully meets this limitation.).

Regarding claim 54, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the components (2) including a second defective component (a second hatched block for the bad blocks 2) and the conductors (6B or 11B) being configured to reconfigure the component contacts (4) on the second defective component (see e.g., Fig. 6(b)). Since the contacts 4 on the bad chip 2 are physically attached to the contacts 9 on the good chip 8 thru the good chip 8, the contacts 9 read as reconfigured contacts of the contacts 4. Thus, Tanizawa fully meets this limitation.).

Regarding claim 55, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the components (2) including a second defective component (a second hatched block for the bad blocks 2) and the conductors being configured to electrically connect multiple components in a cluster (wafer level IC) that excludes the second defective component (see e.g., Fig. 6(a) and Fig. 6(b)).

Regarding claim 56, as best as understood by the Examiner, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a semiconductor component comprising:

- a substrate (semiconductor wafer 1 in Fig. 4) comprising a plurality of components (semiconductor IC blocks 2) including a plurality of component contacts (4);
- the components (2) including a plurality of good components (e.g., any one of the good elements 2) and at least one defective component (any hatched block 2, i.e., E; see Fig. 4 and column 5, lines 61 – 62) identified during a component testing process (testing process; column 5, lines 62 – 66); and

- a plurality of redistribution conductors (6) on the components configured to electrically isolate the component contacts on the defective component (any hatched block 2, i.e., E; see e.g., Fig. 4), on the substrate during testing of the good components (see e.g., Fig. 6(b) and column 6, lines 25 – 30. since the conductors 6B is electrically connected to the new chip 8 and not electrically connected to the bad chip 2, Tanizawa fully meets this limitation.).

Furthermore, the limitation “the conductor having a pattern containing information from testing of the components representing locations of the good components, the defective component and the component contacts, and for electrically isolating the defective component” is functional or intended use language that does not differentiate the claimed structure over Tanizawa. Since the term “information from testing of the components” is defined as the locations of the good components, the defective component and the component contacts and the patterned conductor of Tanizawa represents the locations of the good components, the defective component and the component contacts, the patterned conductor of Tanizawa contains the information from testing of the components. Thus, Tanizawa meets the claim. Even further, the term “burn-in” testing is a process designation, and would thus not carry patentable weight in this claim drawn to a product. See *In re Thorp*, 227 USPQ 964 (Fed. Cir. 1985).

Regarding claim 57, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a plurality of terminal contacting (the attaching materials between the elements 6B and 4) on the good components (good 2s, i.e., A – D, etc.) in electrical communication with the conductors (e.g., 4) and the component contacts on the good components (see e.g., Fig. 6(b)).

Regarding claim 58, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the conductors (6B) being configured to electrically connect a plurality of good components in a cluster (wafer level IC) that excludes the defective component (see e.g., Figs. 6(a) and 6(b)).

Regarding claim 59, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the substrate (1) comprising a semiconductor wafer (1; column 4, line 67), and the components (2) comprising semiconductor dice or semiconductor packages (die-IC; column 6, lines 51 – 55).

Regarding claim 60, as best as understood by the Examiner, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a semiconductor component comprising:

- a substrate (semiconductor wafer 1 in Fig. 4 and column 4, line 67) comprising a plurality of semiconductor components (semiconductor IC blocks 2; column 5, lines 1 – 15), each component comprising a plurality of integrated circuits (Integrated circuits in the blocks 2; column 5, lines 16 – 27) and a plurality of component contacts (4; column 5, line 16) in electrical communication (by using the element 112) with the integrated circuits, the components including a plurality of good components (good components, i.e., A, B, C and the not hatched block 2 in Fig. 4) and at least one defective component (any hatched block 2, i.e., E; see Fig. 4 and column 5, lines 61 – 62); and
- a plurality of redistribution conductors (6B; column 5, lines 47 and 48) on the components, and the conductors configured to reconfigure the component contacts (by redistribution line 5) on the defective component (Fig. 3(a), Fig. 6(b), column 5, line 62 – column 6, line 5).

Furthermore, the limitation “the conductors having a pattern containing information from testing of the semiconductor components representing locations of the good components, the defective component and the component contacts,” is functional or intended use language that does not differentiate the claimed structure over Tanizawa. Since the term “information” is defined as the locations (i.e., the good components, the defective component and the component contacts) and the patterned conductor of Tanizawa also represents the locations (i.e., the good components, the defective component and the component contacts), hence the patterned conductor of Tanizawa contains the information. Thus, Tanizawa meets the claim.

Regarding claim 61, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a plurality of terminal contacts (the attaching materials between the elements 6B and 4) on the good components (2) in electrical communication with the conductors (6B) and the component contacts (4; see e.g., Figs. 3(a) and 3(b)) on the good components.

Regarding claim 62, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the substrate (1) comprising a semiconductor wafer (1) or portion thereof and the components (2) comprising a dice (die-IC; column 6, lines 51 – 55).

Regarding claim 70, as best as understood by the Examiner, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a semiconductor component comprising:

- a substrate (semiconductor wafer 1 in Fig. 4 and column 4, line 67) comprising a plurality of semiconductor components (semiconductor IC blocks 2; column 5, lines 1 – 15) including a plurality of good components (good components, i.e., A, B, C and the not hatched block 2 in Fig. 4) and at least one defective component (any hatched block 2, i.e., E; see Fig. 4 and column 5, lines 61 – 62), each component comprising a

Art Unit: 2815

plurality of component contacts (4; column 5, line 16) and a plurality of integrated circuits (Integrated circuits in the blocks 2; column 5, lines 16 – 27) in electrical communication (by using the element 112) with the component contacts (4; see Fig. 3(a)); and

- a metal redistribution layer (claim 70; the metal redistribution line 5; column 5, lines 28 – 31) on the substrate (1) comprising a plurality of redistribution conductors (6B; column 5, lines 47 and 48) configured to either repair, reconfigure, or electrically isolate the defective component, or to electrically connect multiple good components in a cluster that excludes the defective component (claim 70; see Fig. 3(a), Fig. 6(b), column 5, line 62 – column 6, line 5).

Furthermore, the limitation “the conductors having a pattern containing information from testing of the semiconductor components representing locations of the good components, the defective component and the component contacts, and for repairing the defective component” is functional or intended use language that does not differentiate the claimed structure over Tanizawa. Since the term “information” is defined as the locations (i.e., the good components, the defective component and the component contacts) and the patterned conductor of Tanizawa also represents the locations (i.e., the good components, the defective component and the component contacts), hence the patterned conductor of Tanizawa contains the information. Thus, Tanizawa meets the claim.

Regarding claim 71, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the good components including a plurality of terminal contacts (the attaching materials between

Art Unit: 2815

the elements 6B and 4) in electrical communication with the component contacts on the good components (see e.g., Fig. 3(a)).

Regarding claim 72, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the component contacts (4) comprising bond pads (column 5, line 16).

Regarding claim 73, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the conductors (6B) on the good components have a fan out configuration (see e.g., Fig. 3(a)).

Regarding claim 74, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the substrate (1) comprising a semiconductor wafer (column 4, line 67).

Regarding claim 75, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) a protective layer (5; column 5, lines 28 and 29) on the conductors (6B) on the good components.

Regarding claim 76, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the components (2) comprising dice (die-IC; column 6, lines 51 – 55).

Regarding claim 77, Tanizawa discloses in e.g., Fig. 3(a), Fig. 3(b), Fig. 4 and Fig. 6(b) the components (2) including a second defective component (the second hatched block 2 in Fig. 4) and the conductors (6B) being configured to electrically isolate the second defective component (column 5, lines 62 – 66).

(10) Response to Argument

Objection to the drawings

On page 14, appellant argues “[A]lthough the drawings must show every feature of the invention specified in the claims, all the characteristics of the feature do not need to be shown in

Art Unit: 2815

the drawings ... the presently claimed characteristic of the conductors 'having a pattern containing information' need not be shown in the drawings, because it is explained in the specification". This argument is not persuasive because the pattern of the conductor in this invention is the most critical element for containing information from testing of the semiconductor components. In other words, a specific pattern of the conductor on each of the semiconductor components is the main source to distinguish the good and bad semiconductor components on a wafer before dicing. Thus, the pattern of the conductor is not a just characteristic of the feature. The pattern of the conductor is a critical and necessary structural feature to understand how the conductor contains information from testing of the semiconductor components.

Furthermore, on page 17, appellant argues "the conductors have a physical structure that is different than conventional wiring on a semiconductor wafer. Specifically, the conductors have a unique pattern containing information from testing the semiconductor components." This argument clearly supports Examiner's position that the conductors of instant invention have a physical structure that is different than conventional wiring on a semiconductor wafer. Furthermore, the conductors of instant invention have unique patterns (i.e., unique shapes, forms or locations of the pattern, etc.) for containing information from testing the semiconductor components. Thus, the pattern of the conductor 22 in this instant invention is a critical and necessary structural feature to understand how the conductor contains information from testing of the semiconductor components, not a characteristic or function of the feature.

Even further, on page 21, appellant states "the recitation of the 'conductors having a pattern containing information from the testing of the semiconductor components ... for

Art Unit: 2815

repairing the defective component' ... is submitted to be structural rather than functional, it is submitted to distinguish the claimed component from the art." This statement also clearly support Examiner's position that the limitation "the recitation of the 'conductors having a pattern containing information from the testing of the semiconductor components ... for repairing the defective component'" is structural features to distinguish the claimed component from the art. Therefore, the picture must show all the claimed structural features (i.e., the conductors having a pattern containing information) and how they are put together. *Jockmus v. Leviton*, 28 F.2d 812 (2d Cir. 1928).

For the above reasons, the objection to the drawing has been established pursuant to the requirements of 37 CFR 1.83(a). Therefore, the objection to the drawings is proper, and the Appellant's arguments for their reversal are not persuasive.

Objection to new matter introduced into the disclosure

On pages 15 and 16, appellant argues "[T]he new matter objection is based on the limitation 'the conductors having a pattern containing information from testing of the semiconductor components'. In regard to this limitation, please note page 13, line 22, to page 14, line 9, of the specification. 'Referring again to Figure 1, the redistribution layer 20 can be etched with the conductors 22 in patterns selected to achieve different objectives ... the redistribution layer 20 can be etched to repair or re-configure defective components 12D (Figures 4 and 5). Specifically, the initial testing step identifies the defective components 12D and this information is contained in the digital data 36 (Figure 3) supplied to the modulator 34. Some defects can be corrected by providing conductors 22 that substitute redundant circuitry contained on the

Art Unit: 2815

defective components 12D for defective circuitry ... By electrically connecting, or alternately electrically isolating, selected component contacts 28 using the conductors 22 different configurations can be achieved.' (italics added) In view of the foregoing original disclosure, the new matter objection is submitted to be in error." This argument is not persuasive. According to the above foregoing original disclosure, the conductors 22 could correct some defects by substituting redundant circuitry contained on the defective components 12D, not containing information from testing of the semiconductor components. Thus, the new matter objection of the specification is correct.

For the above reasons, the objection to the specification has been established pursuant to the requirements of 35 U.S.C. 132(a). Therefore, the objection to the specification is proper, and the Appellant's arguments for their reversal are not persuasive.

35 U.S.C. § 112, second paragraph, rejections of claims 52, 56, 60 and 70 due to indefiniteness

On page 18, appellant argues "[A]s stated on page 10, lines 22 – 30 of the specification: 'In addition, the conductors 22 can be configured to locate or 'fan out' terminal contacts (e.g., solder balls) for the components 12 in a desired pattern, such as a dense grid array. Redistribution layers are well known in the art of semiconductor manufacture for configuring different types of components.' From the above disclosure, one skilled in the art would know that the conductors 22 are configured to perform a redistribution function. However, as an additional function, the conductors 22 are configured to either repair, reconfigure, electrically isolate or exclude the defective components 12D from clusters." This argument is not persuasive

Art Unit: 2815

because the above paragraph still does not explain how are the conductors 22 configured to repair the defective component. In other words, it is not clear how the redistribution function of the conductors 22 teaches the repairing the defective component. Every chip has conductors and every conductor has a redistribution function. However, the redistributed conductor couldn't repair the defective component by itself alone. In order to repair any defective component, there must be some kind of special circuit designs that able to repair the defective component by switching on and off the specific circuits in the defective component, not by a redistribution function of the conductors. That is why the limitation "a plurality of redistribution conductors... in electrical communication with the component contacts configured to repair the defective component" is vague and indefinite because the term "repair" is not defined.

Furthermore, appellant argues "a map is nothing more than lines on a piece of paper, but it contains information ... In the present case, the conductors comprise metal lines on a substrate, but they contain information in the form of a unique pattern that allows defective components to be repaired, reconfigured, electrically isolated or excluded from clusters." This argument is not persuasive because the above sentences clearly explain that any conductor that is made by metal or conductive lines on a substrate with a unique pattern allows defective components. However, the above sentences still do not explain how are the conductors repaired, reconfigured, electrically isolated or excluded from clusters. Thus, the limitation "the conductor having a pattern containing information from testing of the semiconductor components ... for repairing the defective component" is vague and indefinite because the term "repairing" is not defined.

For the above reasons, a prima facie case of claims 52, 56, 60 and 70 has been established

Art Unit: 2815

pursuant to the requirements of 35 U.S.C. § 112, second paragraph. Therefore, the rejection of claims 52, 56, 60 and 70 is proper, and the Appellant's arguments for their reversal are not persuasive.

35 U.S.C. § 102(e) rejections of claims 52-62 and 70-77 over Tanizawa

On page 19, appellant argues “[A] first limitation not disclosed or enabled by Tanizawa is ‘redistribution conductors having a pattern containing information from testing of the semiconductor components’.” This argument is not persuasive because Tanizawa clearly shows in e.g., Fig. 6(b) redistribution conductors (6B; column 5, lines 47 and 48) having a pattern (the pattern of the 6B; see e.g., Fig. 6(b)) containing information from testing of the semiconductor components (since the pattern 6B in Fig. 6(b) is **only** directly connected to the good component, hence the pattern 6B indicates that the connected or attached component is a good component. Thus, the pattern 6B of Tanizawa contains information from testing of the semiconductor components to distinguish good and bad components).

Furthermore, appellant argues “the circuit patterns 6 in Tanizawa are not ‘redistribution conductors on the components’ as presently claimed, but rather are wiring patterns on a separate film which interconnect the components.” This argument is not persuasive because appellant does not specifically claim that the redistribution conductors are unified or integrated conductors that directly formed on the uppermost layer of a wafer or semiconductor component. Since the circuit patterns 6 connect one contact in one location to the other contact in the other location and made by copper (column 5, lines 37 and 38), hence the circuit pattern 6 of Tanizawa read as redistribution conductors on the components, regardless it is formed on a separate film or not.

Even further, appellant argues “the circuit pattern 6 are not on the circuit blocks 2, but rather are in the streets between the circuit blocks 2. Also, the circuit patterns do not function as ‘redistribution conductors’ because they do not redistribute the pattern of the component contacts (pads 4-Figure 3(b)), but rather interconnect the circuit blocks 2.” This argument is not persuasive because appellant does not specifically claim that the location of the redistribution conductors, i.e., located only on one semiconductor component and interconnection of the contacts must be located within one component. Furthermore, the circuit patterns 6 in Tanizawa are formed on the components (2) as set forth in claims 52, 56, 60 and 70 and electrically communicate with the component contacts (the pads 4 on the elements 2; see e.g., Fig. 6(b)) as set forth in claims 52, 56, 60 and 70. Thus, the circuit patterns 6 in Tanizawa read as redistribution conductors on the components.

Next, appellant argues “the circuit patterns 6 do not have a pattern containing information from testing of the ICs as presently claimed.” This argument is not persuasive because the pattern 6B in Fig. 6(b) of Tanizawa is **only** directly connected to the good component, hence the pattern 6B clearly indicates that the connected component is a good component. In order to know the component is good or not, the component must be tested. Thus, the circuit patterns 6B of Tanizawa contains information from testing of the semiconductor components to distinguish good and bad components.

Next, appellant argues “the examiner has characterized the recitation of the ‘conductors having a pattern containing information from testing of the semiconductor components ... for repairing the defective component’ as being ‘functional or intended use language that does not differentiate the claimed structure over Tanizawa’”. However, the examiner’s interpretation of

Art Unit: 2815

this claim language is incorrect.” This argument is not persuasive because the conductors in the rejected claim have a certain function i.e., for repairing the defective component and are used for a certain purpose, i.e., containing information. Thus, the examiner’s interpretation of this claim language is correct.

Next, appellant argues “the recitation of the ‘conductors having a pattern containing information from testing of the semiconductor components ... for repairing the defective component’ ... is submitted to be structural rather than functional, it is submitted to distinguish the claimed component from the art.” As explained in previous paragraphs, Tanizawa clearly shows in e.g., Fig. 6(b) redistribution conductors (6B; column 5, lines 47 and 48) having a pattern (the pattern of the 6B; see e.g., Fig. 6(b)) containing information from testing of the semiconductor components (since the pattern 6B in Fig. 6(b) is **only** directly connected to the good component, hence the pattern 6B indicates that the connected or attached component is a good component. Thus, the pattern 6B of Tanizawa contains information from testing of the semiconductor components to distinguish good and bad components) ... for repairing the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)). Thus, Tanizawa fully meets the every structural and functional limitations in the recitation.

Next, appellant argues “the conductors not only locate the good components and the defective component, but they also either repair the defective component, reconfigure the component contacts, electrically isolate the defective component, or connect good components in clusters.” This argument is not persuasive. As explained in the above paragraph, the redistribution conductors (6B; column 5, lines 47 and 48) of Tanizawa in e.g., Fig. 6(b) have a pattern (the pattern of the 6B; see e.g., Fig. 6(b)) containing information from testing of the

Art Unit: 2815

semiconductor components (since the pattern 6B in Fig. 6(b) is **only** directly connected to the good component, hence the pattern 6B indicates that the connected or attached component is a good component. Thus, the pattern 6B of Tanizawa contains information from testing of the semiconductor components to distinguish good and bad components) ... for repairing the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)). Furthermore, since appellant does not specifically claim that how is the defective component repaired or reconfigured (e.g., by electrically connecting one circuit to another circuit by switching on and off of the specific circuit's switch element or electrically connecting an extra contact when anyone of intended contact is not working, etc.), hence the repairing or reconfiguring disclosed in Tanizawa's conductor fully meets the repairing the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)), reconfiguring the component contacts (column 5, lines 62 – 67 and see e.g., Fig. 6(b)), electrically isolating the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)), and connecting good components in clusters (see e.g., Fig. 3(a)). Even further, applicant should note that a recitation of the intended use or functional of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use or function, then it meets the claim.

Independent claim 52 and dependent claims 53 – 55

On page 23, Appellant argues “[T]he feature of redistribution conductors configured to perform a repair function is not disclosed or enabled by Tanizawa.” Since appellant merely argues against Tanizawa in a function limitation rather than pointing out specific structural

Art Unit: 2815

differences, the argument is not persuasive. Furthermore, Tanizawa clearly shows in e.g., Fig. 6(b) redistribution conductors (6B; column 5, lines 47 and 48) configured to perform a repair the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)). As explained in the previous paragraphs, appellant does not specifically claim that how is the defective component repaired (e.g., by electrically connecting one circuit to another circuit by switching on and off of the specific circuit's switch element or electrically connecting an extra contact when anyone of intended contact is not working, etc.). Thus, the repairing disclosed in Tanizawa's conductor fully meets the term "repair". Even further, applicant should note that a recitation of the intended use or functional of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use or function, then it meets the claim.

For the above reasons, a prima facie case of claims 52 – 55 has been established pursuant to the requirements of 35 U.S.C. § 102(e). Therefore, the rejection of claims 52 – 55 is proper, and the Appellant's arguments for their reversal are not persuasive.

Independent claim 56 and dependent claims 57 – 59

On page 24, appellant argues "[A]dmittedly the circuit patterns 6 in Tanizawa are configured to electrically isolate defective circuit blocks 2, However, the circuit patterns are not 'redistribution conductors' on the components as presently claimed, but rather are traces on an insulative film 5 located between the circuit blocks 2." This argument is not persuasive because appellant does not specifically claim that the location of the redistribution conductors, i.e.,

located only on one semiconductor component. Furthermore, the circuit patterns 6 connect one contact in one location to the other contact in the other location and made by copper (column 5, lines 37 and 38), hence the circuit pattern 6 of Tanizawa read as redistribution conductors on the components, regardless it is formed on an insulative film 5 or not.

For the above reasons, a prima facie case of claims 56 – 59 has been established pursuant to the requirements of 35 U.S.C. § 102(e). Therefore, the rejection of claims 56 – 59 is proper, and the Appellant's arguments for their reversal are not persuasive.

Independent claim 60 and dependent claims 61 – 62

On page 25, appellant argues “[T]he circuit patterns 6 in Tanizawa are not configured to reconfigure the pads 4 on defective circuit blocks 2.” Since appellant merely argues against Tanizawa in a function limitation rather than pointing out specific structural differences, the argument is not persuasive. Furthermore, Tanizawa clearly shows in e.g., Fig. 6(b) redistribution conductors (11B; column 6, lines 25 – 32) configured to reconfigure the pads 4 on defective circuit blocks 2 (column 5, lines 62 – 67 and see e.g., Fig. 6(b)). As explained in the previous paragraphs, appellant does not specifically claim that how is the defective component reconfigured (e.g., by electrically connecting one circuit to another circuit by switching on and off of the specific circuit's switch element or electrically connecting an extra contact when anyone of intended contact is not working, etc.). Thus, the reconfiguring disclosed in Tanizawa's conductor fully meets the term “reconfigure”. Furthermore, applicant should note that a recitation of the intended use or functional of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably

Art Unit: 2815

distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use or function, then it meets the claim.

For the above reasons, a prima facie case of claims 60 – 62 has been established pursuant to the requirements of 35 U.S.C. § 102(e). Therefore, the rejection of claims 60 – 62 is proper, and the Appellant's arguments for their reversal are not persuasive.

Independent claim 70 and dependent claims 71 – 77

On page 26, Appellant argues “[T]he circuit patterns 6 in Tanizawa are not a metal redistribution layer on a substrate.” This argument is not persuasive. As explained in the previous paragraphs, the circuit patterns 6 connect one contact in one location to the other contact in the other location on a substrate (1; see e.g., Fig. 6(b)) and made by copper (column 5, lines 37 and 38). Thus, the circuit pattern 6 of Tanizawa read as redistribution conductors on the components.

Furthermore, Appellant argues “the circuit patterns 6 in Tanizawa do not inherently perform the function of a metal redistribution layer.” Since appellant merely argues against Tanizawa in a function limitation rather than pointing out specific structural differences, the argument is not persuasive.

Even further, Appellant argues “the circuit patterns 6 in Tanizawa are not configured to either repair a defective component, reconfigure component contacts on a defective component, electrically isolate a defective component or cluster good components.” This argument is not persuasive. Since appellant does not specifically claim that how is the defective component repaired or reconfigured (e.g., by electrically connecting one circuit to another circuit by

Art Unit: 2815

switching on and off of the specific circuit's switch element or electrically connecting an extra contact when anyone of intended contact is not working, etc.), hence the repairing or reconfiguring disclosed in Tanizawa's conductor fully meets the repairing the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)), reconfiguring the component contacts (column 5, lines 62 – 67 and see e.g., Fig. 6(b)), electrically isolating the defective component (column 5, lines 62 – 67 and see e.g., Fig. 6(b)), and connecting good components in clusters (see e.g., Fig. 3(a)). Furthermore, applicant should note that a recitation of the intended use or functional of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use or function, then it meets the claim.

For the above reasons, a prima facie case of claims 70 – 77 has been established pursuant to the requirements of 35 U.S.C. § 102(e). Therefore, the rejection of claims 70 – 77 is proper, and the Appellant's arguments for their reversal are not persuasive.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Art Unit: 2815

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Chris Chu



Examiner

A.U. 2815

Conferees:

Ken Parker



SPE

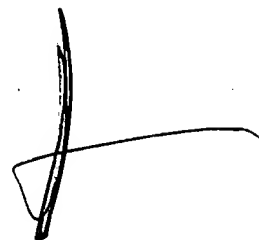
A. U. 2815

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A.U. 2834



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